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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,877	12/31/2001	Tong Sun	KCC 4781 (K.C. No. 17,028)	6437

321 7590 12/24/2002

SENNIGER POWERS LEAVITT AND ROEDEL  
ONE METROPOLITAN SQUARE  
16TH FLOOR  
ST LOUIS, MO 63102

[REDACTED] EXAMINER

HALPERN, MARK

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1731

DATE MAILED: 12/24/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/038,877	SUN ET AL.	
	Examiner Mark Halpern	Art Unit 1731	
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>			
<b>Period for Reply</b>			
<b>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.</b>			
<ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul>			
<b>Status</b>			
1) <input type="checkbox"/> Responsive to communication(s) filed on _____.			
2a) <input type="checkbox"/> This action is FINAL.                    2b) <input checked="" type="checkbox"/> This action is non-final.			
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.			
<b>Disposition of Claims</b>			
4) <input checked="" type="checkbox"/> Claim(s) <u>1-25</u> is/are pending in the application.			
4a) Of the above claim(s) _____ is/are withdrawn from consideration.			
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.			
6) <input checked="" type="checkbox"/> Claim(s) <u>1-7, 10-17 and 20-25</u> is/are rejected.			
7) <input checked="" type="checkbox"/> Claim(s) <u>8, 9, 18 and 19</u> is/are objected to.			
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.			
<b>Application Papers</b>			
9) <input type="checkbox"/> The specification is objected to by the Examiner.			
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).			
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action.			
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.			
<b>Priority under 35 U.S.C. §§ 119 and 120</b>			
13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input type="checkbox"/> All    b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.			
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.			
15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.			
<b>Attachment(s)</b>			
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.	
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)	
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> .		6) <input type="checkbox"/> Other: _____.	

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 1) Claims 1-7, 14, are rejected under 35 U.S.C. 102(b) as being anticipated by Gomez (4,487,657).

Claims 1-7: Gomez discloses a method wherein a suspension of cellulosic papermaking fibers is formed on a wire into a paper sheet and then the formed sheet is pressed and dried (col. 3, lines 49-55, col. 9, line 34 to col. 10, line 51). A borate compound, boric acid, is added to the suspension prior to the formation of the sheet (col. 8, lines 39-53). The pH range of the suspension is 6-7 (col. 11, lines 20-25). Boric acid is of formula  $H_3BO_3$ . Thus, in the formula, the sum of x, y and z, is equal to 3, and the R components are hydrogens.

Claim 14: the paper stock may be made of scrap paper (col. 4, line 14).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1731

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 10-13, 15-17, 20-23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomez in view of Shannon (6,488,812).

Claims 10-13, 15-17, 20-22: Gomez discloses a method wherein a suspension of cellulosic papermaking fibers is formed on a wire into a paper sheet and then the formed sheet is pressed and dried (col. 3, lines 49-55, col. 9, line 34 to col. 10, line 51). A borate compound, boric acid, is added to the suspension prior to the formation of the sheet (col. 8, lines 39-53). The pH range of the suspension is 6-7 (col. 11, lines 20-25). Gomez fails to disclose that the web is dried by heated gas, air, having a temperature of at least 190 °C. Shannon discloses air drying of formed web at about 390 °F (about 199 °C) (Shannon, col. 14, lines 15-36). It would have been obvious, to one skilled in the art at the time the invention was made, to combine the teachings of Gomez and Shannon, because such a combination would provide additional means of drying the web in the design of Gomez.

Claim 23: the paper stock may be made of scrap paper (col. 4, line 14).

3) Claim 24 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gomez. Gomez discloses a method wherein a suspension of cellulosic papermaking fibers is formed on a wire into a paper sheet and then the formed sheet is pressed and dried (col. 3, lines 49-55, col. 9, line 34 to col. 10, line 51). A borate compound, boric acid, is added to the suspension prior to the formation of the sheet (col. 8, lines 39-53). The pH range of the suspension

is 6-7 (col. 11, lines 20-25). Boric acid is of formula H<sub>3</sub>BO<sub>3</sub>. Thus, in the formula, the sum of x, y and z, is equal to 3, and the R components are hydrogens.

In the event any differences can be shown for the product of the product-by-process claim 24, as opposed to the product taught by the reference Gomez, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results; see also *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

- 4) Claim 25: the Gomez sheet is of basis weight 40-800 grams/m<sup>2</sup> (col. 10, lines 41-51).

#### ***Allowable Subject Matter***

- 5) Claims 8-9, 18-19, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for indicating allowable subject matter is that the cited prior art does not show a process for manufacturing a cellulosic paper wherein boric acid is added to the suspension in the amount claimed (claims 8-9, 18-19).

***Conclusion***

6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halpern whose telephone number is 703-305-4522. The examiner can normally be reached on Mon-Fri, (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

*M. Halpern*

Mark Halpern  
Patent Examiner  
Art Unit 1731

December 20, 2002